

Technical Data Sheet

Product Name: Micro-Vita L-Citrulline malate (2:1) 1000mesh

Trade Brand: SmartHerb

Technical Data Sheet			
AC Code	SH07028	CAS number	54940-97-5
Molecular formula	2C ₆ H ₁₃ N ₃ O ₃ · C ₄ H ₆ O ₅	Molecular weight	484.46g/mol
Origin	China	Source	Biotechnological processing
Solvent Used	N/A		
Item	Standard		Analysis Method
Appearance	White crystals or crystalline powder		Visual
Typical Analysis			
Specific rotation	+17.0°~ +19.0°		Ph. Eur. 2.2.7
L-Citrulline	62.5%~74.2%		HPLC
DL-Malic Acid	26.4%~36.4%		HPLC
Chlorides	≤0.05 %		Ph. Eur. 2.4.4
Residue on Ignition	≤0.10 %		Gravimetric
Loss on Drying	≤0.20 %		Ph. Eur. 2.2.32
Particle Size	≥98 % passing through 1000 Mesh		Particle Size
Heavy metals			
Heavy metals	≤10 mg/kg		ICP-MS
Iron	≤10ppm		ICP-MS
Lead (Pb)	≤3.0 mg/kg		ICP-MS
Arsenic (As)	≤1.0 mg/kg		ICP-MS
Cadmium (Cd)	≤1.0 mg/kg		ICP-MS
Mercury (Hg)	≤0.1 mg/kg		ICP-MS
Microorganism			
Total Bacterial Count	≤1000 CFU/g		Ph. Eur. 2.6.12
Total Yeast and Mould Count	≤100 CFU/g		Ph. Eur. 2.6.12
E. coli	Negative		Ph. Eur. 2.6.13
Package	N.W. 25Kgs/fiber drum and two plastic bags inside.		
Shelf life	24 months		
Storage	Store in an airtight container at 15-30 ° C and dry away from light.		

INGREDIENTS

An ingredient is defined in Directive 2000/13/EC on labelling: "ingredient means any substance including additives, used in the production or preparation of a foodstuff and still present in the finished product although possibly in a modified form" i.e all raw materials to produce the goods.

Please list all ingredients:

Ingredients/material composition	%	Country of origin
L-Citrulline malate	100%	China

ORIGIN

Country of origin of the product: China

Is a manufacturing process available	☒ YES	☐ NO
Source of the product:	☐ Animal ☐ Plant ☐ Mineral origin ☐ Synthetic ☒ Biotechnological processing	
please answer the following questions.		
Catalysis By Enzymes		
Name Of Enzyme:	N/A	Sources Of Enzymes: N/A
Fermentation		
Source: Starting raw materials L-Arginine and α -ketoglutaric acid are produced by microbial fermentation using bacterial strains. L-Arginine Alpha-Ketoglutarate (2:1) crystalline complex is obtained via aqueous salt-forming complexation of the two fermentation-derived raw materials as downstream refining step.		

GENETICALLY MODIFIED ORGANISMS-GMO

According to EU regulations EC/1829/2003 & EC/1830/2003

According to the EU regulations concerning the traceability and labelling of Genetically Modified Organisms(GMO), and the traceability of food products produced from GMO, we confirm that the product:		
Contains ingredient(s) from Maize and/or Soya origin	☐ YES	☒ NO
Contains no material which contains, consists of or is produced from authorized GMOs in proportion higher than 0,9%. This presence is adventitious or technically unavoidable	☒ YES	☐ NO
is GMO or contains or consists of GMOs	☐ YES	☒ NO
is produced from GMOs or contains ingredients produced from GMOs	☐ YES	☒ NO
Contains ingredient(s) from other potential GMO-risk raw material(s) (rice, beet, cotton ...)	☐ YES	☒ NO
If Yes, please specify: o ingredient: o vegetable origin: o geographic origin:		
Contains no material which contains, consists of or is produced from evaluated GMOs in proportion higher than 0,5%. This presence is adventitious or technically unavoidable	☒ YES	☐ NO
For information about processing aids, is produced or contains ingredient(s) produced with GMOs or Genetically Modified Microorganisms processing aids (bacteria, yeast... or derived from GMOs or GMMs (including enzymes))	☐ YES	☒ NO
If yes, please specify:		
We confirm that the ingredient supplied is compliant in all respects with the Regulations N°1829/2003/EC and N°1830/2003/EC where applicable	☒ YES	☐ NO

SUBSTANCES OR PRODUCTS CAUSING ALLERGIES OR INTOLERANCES

According to Regulation (EU) No. 1169/2011 as regards of ingredients present in foodstuffs



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Allergenic substances (Regulation EU 1169/2011 – Annex II)	Present in finished product	Present in the manufacturing site	Present on the same manufacturing line	Possible cross-contamination
Cereals containing gluten (i.e. wheat, rye, barley, oats, spelt, kamut or their hybridised strains)	NO	NO	NO	NO
Crustaceans and products thereof	NO	NO	NO	NO
Eggs and products thereof	NO	NO	NO	NO
Fish and products thereof	NO	NO	NO	NO
Peanuts and products thereof	NO	NO	NO	NO
Soybeans and products thereof	NO	NO	NO	NO
Milk and products thereof (including lactose)	NO	NO	NO	NO
Nuts (almond, hazelnut, walnut, cashew, pecan nut, Brazil nut, pistachio nut, macadamia nut)	NO	NO	NO	NO
Celery and products thereof	NO	NO	NO	NO
Mustard and products thereof	NO	NO	NO	NO
Sesame seeds and products thereof	NO	NO	NO	NO
Sulphur dioxide and sulphites (>10 mg/kg or 10 mg/L expressed as SO ₂)	NO	NO	NO	NO
Lupin and products thereof	NO	NO	NO	NO
Molluscs and products thereof	NO	NO	NO	NO

NON IRRADIATION

According to UE Directive No.1999/2/CE

Has this raw material or one of its ingredients been irradiated or ionised	☐ YES	☒ NO
We confirm above non-irradiation statement is available	☒ YES	

NANOMATERIAL

According to Regulation(EU)No 1169/2011

Does this raw material contain or can be considered as engineered nanomaterial	☐ YES	☒ NO
Does this raw material have been made with nanotechnology?	☐ YES	☒ NO
Does the product contain nanotechnology as	☐ YES	☒ NO

defined by the French decree no.2012-232?		
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RESIDUAL SOLVENTS

According to UE Directive 2009/32 modified by (UE)2010/59 and CPMP/ICH/283/95Q3C

Does the raw material contain any residual solvent	☐ YES	☒ NO
If yes, please give: percentage and name of each solvent used: level of residual solvents:		
Is the product in compliance with the UE Directive 2009/32	☒ YES	☐ NO
Is the product in compliance with the ICH guidelines	☒ YES	☐ NO

WADA Anti-Doping Statement

Current WADA Prohibited List

Does the product contain any prohibited substances (hormones, anabolic agents, stimulants) listed on WADA Prohibited List?	☐ YES	☒ NO
Is there any risk of cross-contamination with WADA banned substances during production?	☐ YES	☒ NO

FOOD CERTIFICATE

Manufacturer's quality certificates:				
ISO 9001 ☐	HACCP ☐	ISO 14001 ☐	ISO 22000 ☐	☒ OTHER
Is the raw material Food Grade?	☒ YES	☐ NO		
Can the product be used in baby food(Directive 2006/141/CE)?	☐ YES	☒ NO		
Does the product comply with the UE Regulation No231/2012 about additives?	☒ YES	☐ NO		
Is the product complying with a Pharmacopeia monography?	☐ YES	☒ NO		
Is the product complying with the UE Regulation No.1334/2008 about flavourings?	☐ YES	☒ NO		
Was the product used in the European food industry before May 1997?	☒ YES	☐ NO		
If no, could you provide an authorisation (according to Regulation 258/97/EC)?	☐ YES	☐ NO		
Are stability studies available?	☒ YES	☐ NO		

CONTAMINANTS

Is the product conforming to UE regulations No 2023/915 setting maximum levels for certain contaminants in foodstuffs, as amended?		☒ YES	☐ NO
Contaminants	Tested?	Result	
Pesticides (multi-residue)?	YES	Complies with EU 396/2005	
Dioxins and dioxin like PCBs?	YES	Complies with EU 915/2023	
Heavy metals	YES	Complies (≤ 10 ppm)	
PAHs(PAH4)	YES	Complies with EU 915/2023	
Benzo[a]pyrens?	YES	Complies with EU 915/2023	
Mycotoxins (Aflatoxins, OTA)	YES	Complies with EU 915/2023	
3-MCPD	NO	Not applicable	



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Doping like substances? http://list.wada-ama.org/	NO	Not applicable
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FOREIGN BODIES

Which material do you use in order to fight against the foreign bodies			
	Presence?	Test frequency	Where is it located on the process line?
Magnet	YES	Continuous	Raw material intake / processing line
Metal detector	YES	Each batch	Before packaging
Sieve	YES	Continuous	During processing
Filter	YES	Continuous	Extraction / filtration stage
X-ray detection	NO	Not applicable	Not applicable
Other(please specify)	NO	Not applicable	Not applicable

NUTRITIONAL VALUES

Nutritional Composition	☒ Per 100g	☐ Per serving
Energy(kJ/kcal)	Approx. 1207 kJ / 288 kcal	
Total Fat(g)	0	
Total Carbohydrate(g)	0	
fibre (g)	0	
Vitamins:	N/A	
Minerals:	N/A	
Remarks: Nutrition Data are obtained by 3 rd party lab; tested on a yearly basis		

TRACEABILITY

Batch size	N/A
Batch definition	A batch is defined as a homogeneous production lot produced under the same conditions
Signification of the batch number by an example	N/A
Marking method (labelling...)	N/A

PACKAGING

Is the packaging material approved as food grade according to regulations 1935/2004,10/2011 and 1282/2011?	☒ YES	☐ NO
Do you guarantee the packaging traceability according to regulation 1935/2004(art 17)?	☒ YES	☐ NO
Can you guarantee that the product and its packaging supplied to do not contain Phtalates?	☒ YES	☐ NO
Can you guarantee that the product and its packaging supplied to do not contain ITX? (A packaging contaminant:Isopropylthioxanthone(ITX)found in dairy products)	☒ YES	☐ NO
Can you guarantee that the product and its packaging supplied to do not contain BisphenolA(BPA)?	☒ YES	☐ NO
Do you add desiccant bags during packaging process? If so,where do you mention it:.....	☐ YES	☒ NO
Can you provide migration test in order to guarantee packaging safety?	☒ YES	☐ NO

Safety Data Sheet (SDS)

Section 1 Identification of Substance

Product Name:	Micro-Vita L-Citrulline malate (2:1) 1000mesh	CAS No.	54940-97-5
Molecular Formula:	$2C_6H_{13}N_3O_3 \cdot C_4H_6O_5$	Molecular Weight:	484.46g/mol
Supplier / trade brand	SmartHerb	Address	Chengnan Road, Huaxi Subdistrict, Changxing

Section 2 Hazards Identification

2.1 Classification of the substance

Not classified as hazardous substance according to Regulation (EC) No 1272/2008 (CLP/GHS).

2.2 Label elements

No hazard pictogram, no signal word, no hazard statement, no precautionary statement required.

2.3 Other hazards

Airborne dust may cause mechanical irritation of eyes and respiratory tract.

Fine organic dust dispersed in air may present a combustible-dust hazard under certain conditions; avoid dust accumulation and ignition sources.

PBT/vPvB assessment: no assessment data available

Section 3 Composition, Information on Ingredients

Component	Ratio	Country of origin
L-Citrulline malate	100%	China

Section 4 First Aid Measures

4.1 Description of first-aid measures

Inhalation: Move the person to fresh air and keep comfortable for breathing. Seek medical advice if symptoms persist.

Skin contact: Wash with water and soap. Remove contaminated clothing. Seek medical advice if irritation develops.

Eye contact: Rinse cautiously with clean water for several minutes, removing contact lenses if easy to do. Continue rinsing. Obtain medical advice if irritation persists.

Ingestion: Rinse mouth. Do not induce vomiting. Give water to drink if conscious. Seek medical advice if unwell.

4.2 Most important symptoms and effects

Dust may cause temporary mechanical irritation of eyes, skin, nose or throat

Section 5 Fire-Fighting Measures

5.1 Extinguishing media

Suitable media: water spray, dry chemical, carbon dioxide or alcohol-resistant foam, selected for the surrounding fire.
Unsuitable media: avoid a direct high-pressure water jet that may disperse dust.

5.2 Special hazards arising from the product

Thermal decomposition or combustion may produce carbon oxides and nitrogen oxides. Suspended fine dust may form an explosive mixture with air.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective equipment. Cool exposed containers with water spray. Prevent contaminated firefighting water from entering drains where practicable.

Section 6 Accidental Release Measures

6.1 Personal precautions

Avoid generating or breathing dust. Ensure adequate ventilation. Use personal protective equipment described in Section 8. Remove ignition sources where a dust cloud may form.

6.2 Environmental precautions

Prevent large quantities from entering drains, surface water or soil.

6.3 Methods for containment and cleaning up

Collect mechanically using a vacuum equipped with a suitable particulate filter or gently sweep into a labelled container. Avoid dry sweeping that generates airborne dust. Wash the residue with water where appropriate.

Section 7 Handling and Storage

7.1 Precautions for safe handling

Use adequate ventilation. Minimise dust generation and accumulation. Avoid contact with eyes. Do not eat, drink or smoke in work areas. Wash hands after handling. Ground and bond equipment where significant combustible dust may be generated.

7.2 Conditions for safe storage

Keep tightly closed in the original or compatible container. Store in a cool, dry and well-ventilated place, protected from moisture, heat and direct sunlight. Keep away from strong oxidising agents.

Section 8 Exposure Controls/Personal Protection

8.1 Exposure controls

Engineering controls: local exhaust ventilation where dust is generated.

Eye protection: safety glasses with side shields; goggles for dusty operations (EN 166).

Hand protection: suitable protective gloves for prolonged handling; select according to task and local risk assessment (EN ISO 374).

Respiratory protection: normally not required with adequate ventilation. For dust exposure, use a suitable particulate filter respirator, e.g. FFP2/P2, based on risk assessment (EN 149).

Body protection: standard work clothing.

Environmental exposure controls: avoid uncontrolled release of large quantities.

Section 9 Physical and Chemical Properties

9.1 Appearance: white crystalline powder

9.2 Particle size: $\geq 98\%$ passing through 1000 Mesh

9.3 Odor: none reported

9.4 pH: Not available.

9.5 Vapor Pressure: Negligible.

9.6 Vapor Density: Not available.

9.7 Evaporation Rate: Negligible.

9.8 Viscosity: Not available.

9.9 Boiling Point: Not available.

9.10 Freezing/Melting Point: Not available.

9.11 Decomposition Temperature: Not available.

9.12 Solubility: Easy to dissolve in water.

9.13 Specific Gravity/Density: Not available.

Section 10 Stability and Reactivity

10.1 Reactivity

No hazardous reactivity expected under recommended handling and storage conditions.

10.2 Chemical stability

Stable under normal ambient and anticipated storage conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation is not expected.

10.4 Conditions to avoid

Excessive heat, moisture, direct sunlight, dust clouds and ignition sources.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Carbon oxides and nitrogen oxides may form during fire or severe thermal decomposition.

Section 11 Toxicological Information

11.1 Information on hazard classes as defined in CLP

Acute toxicity: insufficient product-specific data; not expected to meet classification criteria based on available information.

Skin corrosion/irritation: not expected to meet classification criteria; dust may cause mechanical irritation.

Serious eye damage/irritation: not expected to meet classification criteria; dust may cause temporary irritation.

Respiratory/skin sensitisation: no data indicating classification.

Germ-cell mutagenicity, carcinogenicity, reproductive toxicity: no adequate product-specific data indicating classification.

STOT-single/repeated exposure: no adequate data indicating classification.

Aspiration hazard: not applicable to a solid.

Section 12 Ecological Information

12.1 Toxicity

No reliable product-specific aquatic toxicity data available. The product is not expected to present a significant environmental hazard when used and disposed of properly.

12.2 Persistence and degradability

Expected to be biodegradable, but no validated product-specific data are available.

12.3 Bioaccumulative potential

Low bioaccumulation potential is expected based on the nature of the constituents; no validated data available.

12.4 Mobility in soil

Water solubility indicates potential mobility in soil.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Dispose of product, contaminated packaging and residues in accordance with local, regional and national regulations. Avoid discharge of large quantities to drains. Non-contaminated packaging may be recycled where permitted. The waste code must be assigned by the waste holder according to the actual use and contamination.

Section 14 Transport Information

14.1 UN number or ID number

Not regulated as dangerous goods.

14.2 UN proper shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

Not classified as a marine pollutant / environmentally hazardous substance for transport based on available information.

14.6 Special precautions for user

Protect packages from moisture and physical damage. Avoid dust generation.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable. Product is transported as packaged goods.

Section 15 Regulatory Information

15.1 Safety, health and environmental regulations

Compliant with EU REACH 1907/2006 and CLP 1272/2008. Not listed in SVHC candidate list. Approved for food supplement raw material usage in EU market.

Section 16 Other Information

This SDS is fully consistent with company questionnaire, TDS, allergen statement, GMO declaration, contaminant



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data, packaging specification and fermentation process declaration. All information is valid for EU export customs clearance and customer audits.

Flow Chart

